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(56) Documents cited  
GB 2027329 A GB 1532131 A GB 1278989 A  
GB 1239844 A EP 0135828 A US 4776110 A  
US 3624930 A

(58) Field of search  
UK CL (Edition K) A3B  
INT CL<sup>5</sup> A43B

(54) A ventilated insole

(57) A ventilated footpad or insole including an upper layer (10) and a lower layer (20) formed from foam material, the upper and lower layers being attached to each other by adhesive and cut corresponding to a shoe shape. The adhesive surface of the lower layer (20) has longitudinal ventilating grooves (21) which extend from the edge of the lower layer to the rear end (25) thereof, and on the footpad, at the end region of each of the grooves (21) is formed a recess (23) to prevent the end of the groove from being blocked by the inner contacting wall of the shoe, permitting the air in the shoe to be smoothly exhausted. The rear end (25) of the footpad is elongated to lie in a position near the opening of the shoe so as to also prevent the grooves from being blocked by the inner wall of the shoe to ensure the ventilating effect. The upper layer can be formed with several circular holes (11) above the grooves (21) of the lower layer (20) to form a more efficient ventilating passage system.

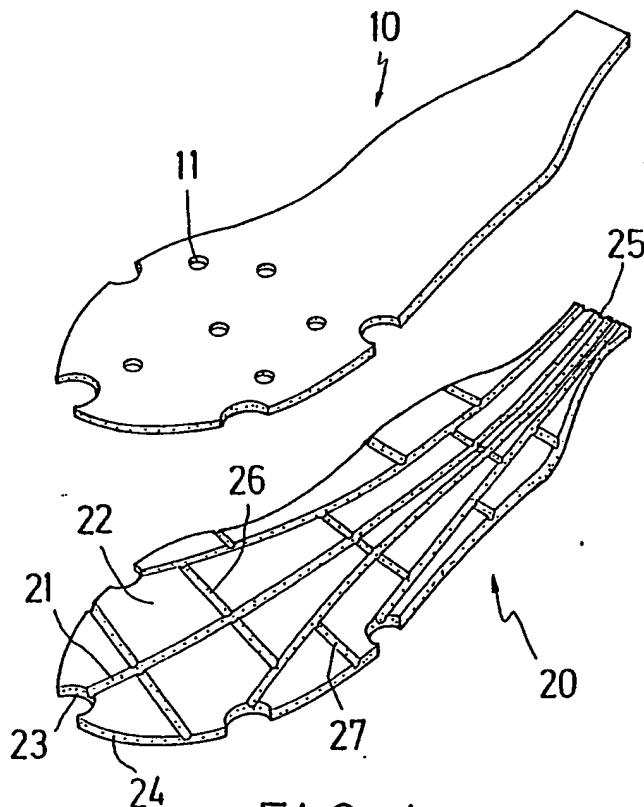


FIG. 1

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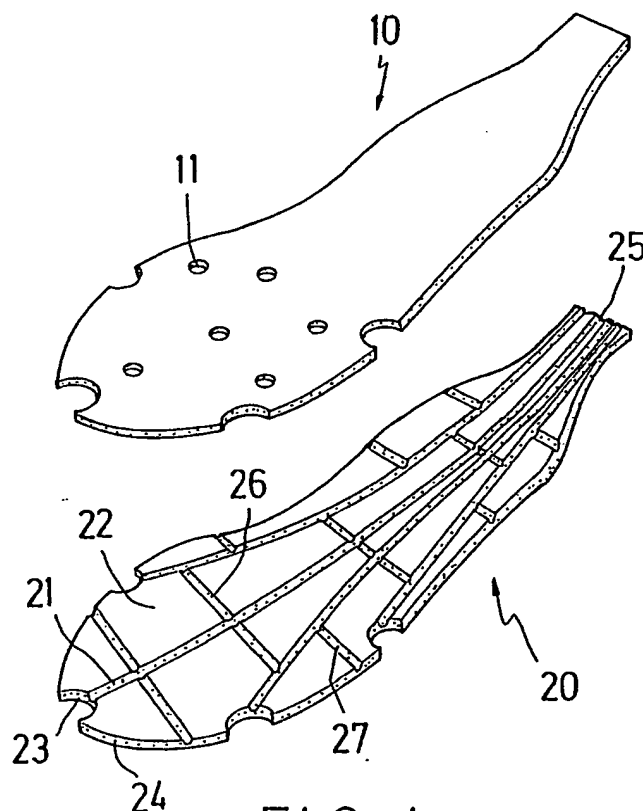


FIG. 1

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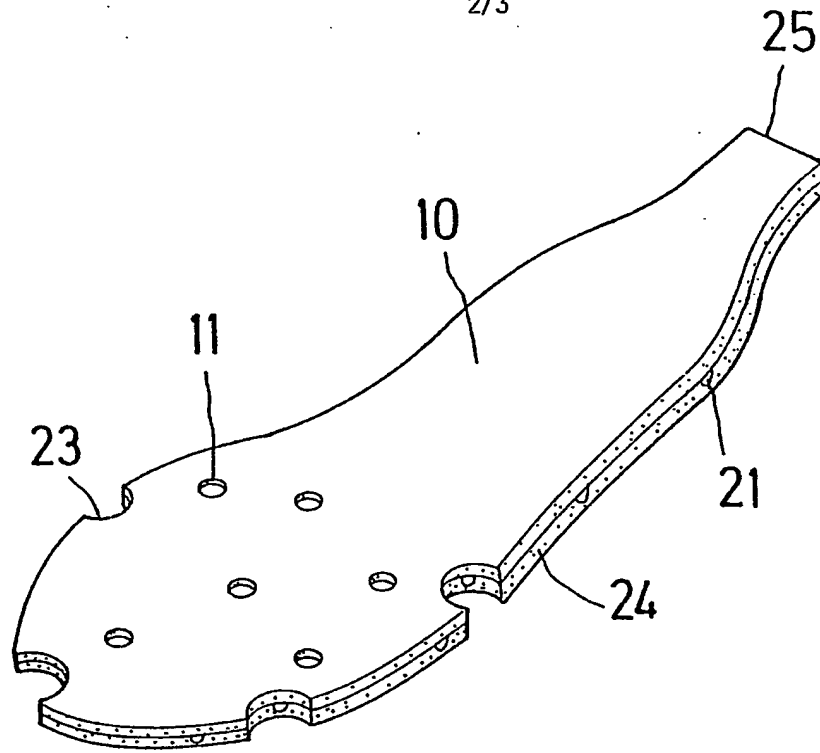


FIG. 2

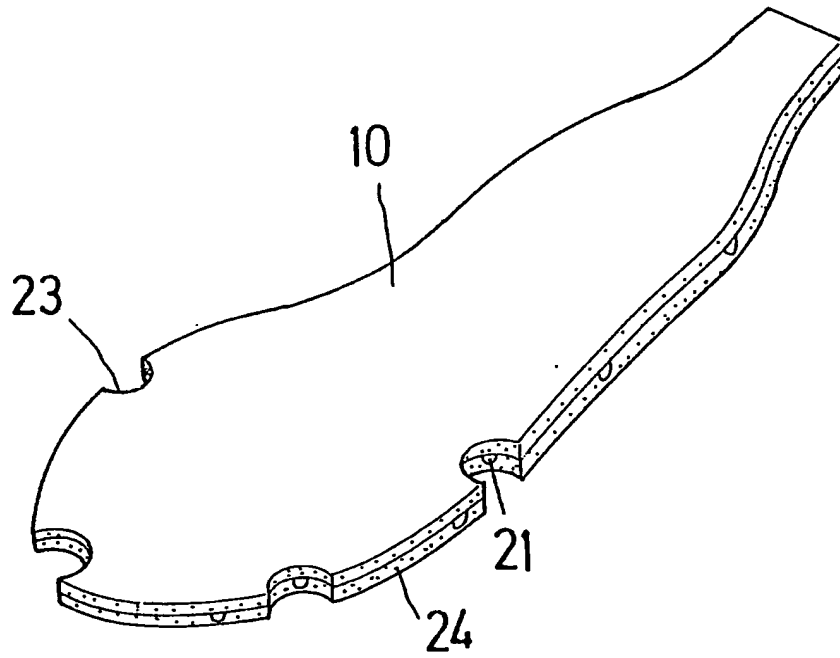


FIG. 4

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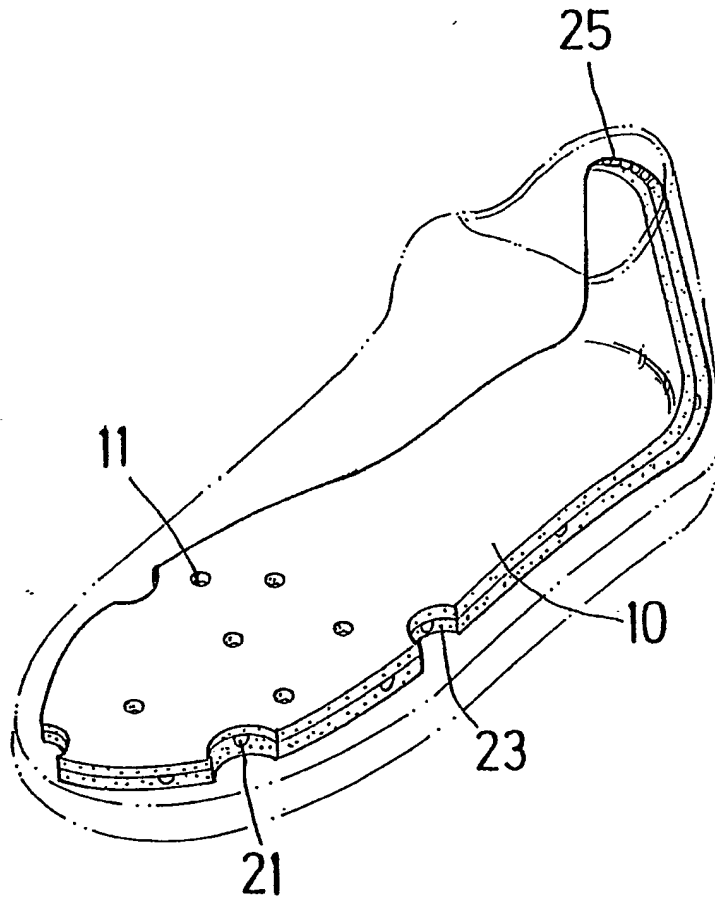


FIG. 3

- 1 -

A VENTILATED FOOTPAD

The present invention relates to a ventilated footpad, or insole and more particularly to a ventilated footpad placed in a shoe, having specific air ventilating passage structure capable of ventilating the air in the shoe.

When wearing a pair of shoes, especially sports shoes for playing games or doing exercise, the feet of the user will sweat and the feet will rub the shoes generating heat. If the sweat and heat can not be properly discharged from the shoes, after a period of time, bacteria will grow producing a bad smell or the user will get Athlete's Foot or the like.

Conventional footpads or insoles have the following shortcomings, which are the reasons why they can not be widely used in most shoes:

1. Most of the conventional footpads or insoles are only formed with several ventilating holes and no suitable passage is provided for discharging hot air and sweat in the shoes. Therefore, no ventilation effect is produced and the user simply feels more uncomfortable.

2. Some of the conventional footpads or insoles are provided with spring members of air chambers which perform some ventilating function. However, the cost of such footpads is very high and the damage rate of these is quite high. Consequently, such footpads can not meet economic requirements.

3. The design of conventional footpads or insoles is poor so that when used, crimps or creases are

often produced on the footpads, or insoles which can make the user's feet uncomfortable.

4. The ventilating effect of conventional footpads is unsatisfactory in that the hot air and sweat will stay in the footpad and after a long period of use, the ventilating structure becomes ineffective and the life of the footpad is shortened.

It is a primary object of this invention to provide a ventilatory footpad or insole having suitable ventilating passages, permitting the hot air and sweat in the shoes to be fully exhausted from the shoes. The volume of the passage is relatively small, so that the user will not feel uncomfortable.

It is further object of this invention to provide the above footpad at low cost. Further, the structure thereof is simple and the possibility of damage is very low.

It is still a further object of this invention to provide the above footpad which is designed with a suitable ventilating structure and appropriate clearance is formed in the footpad according to human body mechanics so as to prevent crimps or creases due to compression of feet and avoid uncomfortableness of the feet.

According to the present invention there is provided a ventilated footpad or insole comprising an upper layer and a lower layer, each of foam material, and attached to one another by adhesive, wherein at the interface of said upper and lower layers ventilating passages or grooves are provided extending from the edges of the footpad to the rear end thereof.

The drawings disclose an illustrative embodiment of the present invention, which serves to exemplify the various advantages and objects hereof, and are as follows:

Fig. 1 is a perspective exploded view of a footpad or insole;

Fig. 2 is a perspective assembled view of a footpad;

Fig. 3 shows a preferred embodiment of a footpad in a position of use; and

Fig. 4 shows another embodiment of this invention, which is formed without circular holes.

Referring to Figs. 1 through 3, the present footpad or insole includes an upper layer 10 and a lower layer 20, which are formed from foam material and attached to each other by adhesive, wherein on the adhesive surface of the lower layer 20 are formed several ventilating grooves 21, which extend from the edge 24 of the lower layer 20 to the rear end 25 thereof. On the upper and lower layers 10 and 20, at the edge end region of each groove 21, is formed a recess 23 and the rear end 25 of the footpad is elongated by a predetermined length. The upper layer 10 is provided with several circular holes 11 corresponding to and above the grooves 21 whereby, when the upper and lower layers 10, 20 are attached to each other, a ventilating structure is formed to fully ventilate the shoes.

In addition, between the longitudinal grooves 21 of the lower layer 20 are formed several communicating grooves 26 and several bypass grooves 27 are also formed between the edge 24 thereof and the longitudinal grooves 21 whereby the upper layer 10 can attach to the lower layer 20 to form an air passage system for more freely ventilating the shoes.

The recesses 23 are used to prevent the end of the groove 21 from being blocked by the inner contacting wall of the shoes, permitting the air in the shoes to be smoothly exhausted. The elongated rear end 25 is also provided for the same reason.

Referring to Fig. 4, this shows another embodiment of this invention, wherein the upper lay 10 is not provided with circular holes.



CLAIMS

1. A ventilated footpad or insole comprising an upper layer and lower layer, each of foam material, and attached to one another by adhesive, wherein at the interface of said upper and lower layers ventilating passages or grooves are provided extending from the edges of the footpad to the rear end thereof.
2. A ventilated footpad or insole comprising an upper layer and a lower layer formed from foam materials, said upper and lower layers being attached to one another by adhesive and cut correspondingly to a shoe shape, wherein on the adhesive surface of said lower layer are formed several longitudinal ventilating grooves, which extend from the edges of said lower layer to the rear end thereof, and in the end region of each said groove is formed a recess in said footpad and the rear end of said footpad is elongated by a predetermined length.
3. A ventilated footpad or insole comprising an upper layer and a lower layer formed from foam material, said upper and lower layers being attached to one another by adhesive and cut correspondingly to a shoe shape, wherein on the adhesive surface of said lower layer are formed several longitudinal ventilating grooves, which extend from the edges of said lower layer to the rear end thereof, and in the end region of each said groove is formed a recess in said footpad and the rear end of said footpad is elongated by a predetermined length, said upper layer being formed with several circular holes corresponding to and above said grooves of said lower layer, whereby said upper and lower layers form a ventilating structure.

4. A ventilated footpad as claimed in claim 3, wherein between said longitudinal grooves are formed several communicating grooves and several bypass grooves are formed between the edge thereof and said longitudinal grooves, whereby said upper and lower layers form a ventilating passage system.

5. A ventilated footpad as claimed in claim 3, wherein said footpad may be used to form a part of an insole or to form a whole insole.

6. A ventilated footpad or insole substantially as herein described with reference to the accompanying drawings.

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number  
9026467.2

**Relevant Technical fields**

- (i) UK Cl (Edition K ) A3B  
(ii) Int Cl (Edition 5 ) A43B

**Search Examiner**

J GRAHAM

**Databases (see over)**

- (i) UK Patent Office  
(ii)

**Date of Search**

14 February 1991

Documents considered relevant following a search in respect of claims

1-6

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2027329 (FAMOLARE) See e.g. Figure 4	At least 1
X	GB 1532131 (MORSE) See Figure 11	"
X	GB 1278989 (FUKUOKA) See e.g. Figure 6	"
X	GB 1239844 (BRAHM) See Figures 1 and 2 and page 3 line 17	"
X	EP 0135828 (NITEC) See cavity 4 Figure 2b	"
X	US 4776110 (SHIANG) See Figure 6	"
X	US 3624930 (JOHNSON) Whole document	"

Category	Identity of document and relevant passages	Relevant to claim(s)

#### Categories of documents

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

**E:** Patent document published on or after, but with priority date earlier than, the filing date of the present application.

**&c:** Member of the same patent family, corresponding document.

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